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10/576,371	01/18/2007	Gino Villata	1200.749	9467

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Liniak Berenato & White
Suite 240
6550 Rock Spring Drive
Bethesda, MD 20817

EXAMINER

CHAU, TERRY C

ART UNIT	PAPER NUMBER
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3655

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,371	Applicant(s) VILLATA ET AL.	
	Examiner TERRY CHAU	Art Unit 3655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-33 is/are pending in the application.
- 4a) Of the above claim(s) 5,7,9,19-29 and 32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,8,10,11,30,31 and 33 is/are rejected.
- 7) ☒ Claim(s) 12-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the second office action on the merits for application 10/576,371 filed 1/18/2007.

Applicant's amendment to the claims filed 3/5/2010 has been entered. Claims 1 and 3-33 are currently pending. Claims 5, 7, 9, 19-29 and 32 are withdrawn from consideration as being drawn to non-elected species. The previous objection to the claims and 112, second paragraph rejections are withdrawn in view of the applicant's amendment.

Election/Restrictions

Applicant's election without traverse of Species 2, Figure 9 in the reply filed on 9/9/2009 is acknowledged.

Claims 5, 7, 9, 19-29 and 32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 4/19/2006 has been considered by the examiner.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6, 11, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Coupland et al. (US 4,821,518).

Coupland et al. discloses:

Regarding claim 1:

A hydraulic control system (system including booster device of figures 1-3 and the master and slave cylinders) for a clutch for a motor vehicle, comprising

an upstream sending cylinder (not shown; connected to 2) connected by a conduit to a downstream receiving cylinder (not shown; connected to 3), so as to form a hydraulic control circuit;

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an assistance cylinder (1) interposed in the conduit, between the upstream sending cylinder and the downstream receiving cylinder; and

at least one assistance piston (4) mounted so as to slide axially along a sliding axis in a body (1) of the assistance cylinder between an upstream engagement position and a downstream disengagement position, so as to delimit an upstream hydraulic chamber (chamber between 2, 4, and 10) and a downstream hydraulic chamber (chamber between 3, 4, and 10) with variable volumes according to the axial position of the assistance piston;

the upstream chamber being connected to the upstream sending cylinder by a portion of hydraulic circuit referred to as an upstream circuit and the downstream hydraulic chamber being connected to the downstream receiving cylinder by a portion of the hydraulic circuit referred to as a downstream circuit,

each hydraulic circuit portion comprising a means (9, 11, 12, 13, 14; see lines 62-67, column 1) of releveling the volume of fluid connected to at least one fluid reservoir;

the assistance cylinder comprising an assistance device (5, 6, 7, 8) applying an assistance force (see lines 24-29, column 1) to the assistance piston during a disengagement phase of the clutch;

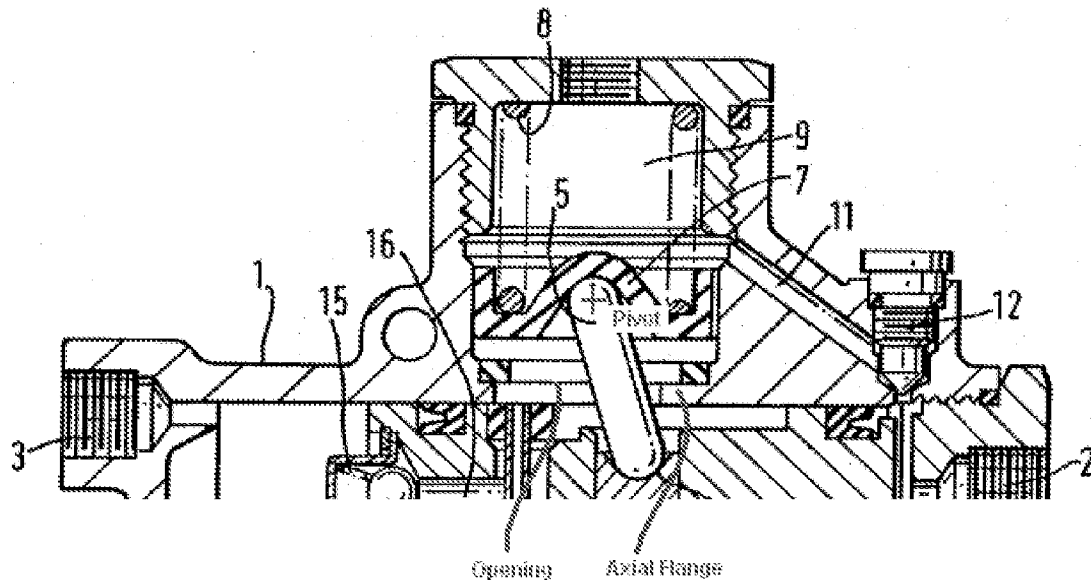
the assistance device comprising a regulation means (5, 6, 7, 8) varying the value of the assistance force according to the travel of a clutch control pedal in accordance with a predetermined assistance law (see lines 7-25, column 2; the assistive force is a function of the piston travel).

Regarding claim 3, the assistance device comprises a transmission member (6) which transmits the assistance force to the assistance piston.

Regarding claim 4, the transmission member is connected in terms of axial movement to the assistance piston in both directions of sliding of the piston.

Regarding claim 6, the transmission member is arranged at an axial end (the axial ends on 4 contacting 6).

Regarding claim 11, the assistance device comprises an elastic element (8) which stores energy during an engagement phase of the clutch and which restores the energy during the disengagement phase in order to produce the assistance force (during the two phases the elastic element stores and restores energy); the elastic element is compressed when the assistance piston is in the upstream engagement position and is expanded when the assistance piston is in the downstream disengagement position (See figure below. The opening in cylinder 1 through which 5 passes would restrict the motion of arms 5. It is noted that the rotation of 5 in the counter clockwise direction about the pivot is restricted due to the axial flange. The rotation of 5 in the clockwise direction is not equally restricted though. Therefore, spring 8 would be more compressed in the upstream side and relatively expanded in the downstream position).



Regarding claim 30, the piston comprises at least one elastic element (8) that returns the piston towards its upstream position (see lines 18-23, column 2).

Regarding claim 31, the regulation means varies the value of the assistance force according to the upstream pressure in the upstream chamber of the assistance cylinder or the downstream pressure in the downstream chamber or a combination of the two pressures according to the predetermined assistance law (Depending on the pressure in the two chambers, piston 4 would be in a certain position and be subjected to an assistive force from the assistance device corresponding to the position of the piston).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 10, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coupland et al. (US 4,821,518) in view of Freeman (US 2,321,479).

The teachings of Coupland et al. have been discussed above.

Regarding claim 8, Coupland et al. also discloses that the assistance cylinder comprises at least one discharge orifice (13) which makes the downstream hydraulic chamber communicate with a fluid reservoir (9), when the assistance piston is occupying its upstream position, so as to compensate for the variations in hydraulic volume in the hydraulic circuit over time (see line 62, column 1 to line 6 column 2).

Regarding claim 8, Coupland et al. does not disclose that the discharge orifice is formed in the body of the assistance cylinder.

Freeman discloses a discharge orifice (23) in a downstream hydraulic chamber (within 18 to the left of 19 as seen in the figure) formed in the body of an assistance cylinder (18) in communication with a reservoir (4). Freeman discloses that a discharge orifice is desirable as the orifice accounts for contract and expansion of the fluid due to temperature changes (see lines 36-42, column 1, page 1)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the assistance cylinder of Coupland et al. such that the discharge orifice is located on the body of the assistance cylinder as per the teachings

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of Freeman, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86, USPQ 70.

Regarding claim 10, the discharge orifice of Coupland et al. as modified by Freeman comprises a valve (19, 20, 23) that is controlled by the axial movement of the assistance piston (19).

Regarding claim 33, Coupland et al. does not disclose a return spring disposed in the downstream hydraulic chamber for biasing the piston towards the upstream position thereof.

Freeman discloses a return spring (22) disposed in the downstream hydraulic chamber (within 18 to the left of 19 as seen in the figure) for biasing a piston (19) towards the upstream position.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a return spring with the hydraulic control system of Coupland et al. in view of the teachings of Freeman that a return spring may be used to bias the piston to a retracted position (see lines 3-8, column 2, page 1). The addition of a return spring to the hydraulic control system of Coupland et al. would ensure the return of the piston to the upstream position and reduce the amount of work needed to be done by the clutch spring (see lines 21, column 2 of Coupland et al.). This permits the usage of a weaker clutch spring with the hydraulic system of Coupland et al.

Allowable Subject Matter

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Claims 12-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 18 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 12-17, the prior art of record does not disclose or render obvious an assistance cylinder between an upstream sending cylinder and a downstream receiving cylinder comprising a means of releveling the volume of fluid in an upstream/downstream chamber, and a regulation means wherein the regulation means is a cam mechanism which is driven by the axial movement of a piston and which regulates the assistance force produced by an elastic element during the disengagement phase.

Regarding claim 18, the prior art of record does not disclose or render obvious an elastic assistance element wherein the axial dimension of the elastic assistance element in the relaxed states is less than the axial distance between the cup and the associate fixed abutment surface.

Response to Arguments

Applicant's arguments filed 3/5/2010 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant states that it is not clear which element of the assistance device is the regulation means.

In response, the examiner would like to reiterate that the assistance device and the regulation means comprise parts 5, 6, 7, 8. Given the definition of comprising in MPEP 2111.03, the examiner believes that it is logically valid to both argue that a set comprises some elements within the set less than the entire set, and that a set comprises the whole set. For example, when drafting claims, it is okay to indicate that an invention comprises parts a, b and c even if parts a, b, and c are the only parts of the invention. The examiner would not require that the applicant remove part a from the list because every part of the invention is recited. Should the applicant find fault with this viewpoint, the applicant is invited to provide an opposing rationale.

Regarding claims 1 and 31, in response to the applicant's argument that the 102 rejections in view of Coupland et al. should be 103 rejections, the examiner has clarified the rejections above. Coupland et al. inherently anticipates a regulation means which varies the value of the assistive force according to the travel of the clutch control pedal in accordance with an assistance law. The assistance law is present even though it is not explicitly stated, just as law of gravitation is present, before Newton penned it. Furthermore, the fact that the assistance law is "predetermined" is not limiting since apparatus claims must be structurally distinguishable from the prior art. See MPEP 2114. So long as the regulation means follows an assistance law, the limitation of claim 1 is met.

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Regarding claim 6, it appears that the applicant is arguing that piston (4) may only have two axial ends. The examiner respectfully disagrees. The two surfaces on piston (4) which contact 6 may broadly be considered to be axial ends.

Regarding claims 11 and 30, applicant's argument that the control system of Coupland does not store and restore energy as per the claimed invention is not persuasive. For the reasons discussed in the rejection of claims 11 and 30 above, the spring is compressed in upstream engagement position and expanded in the downstream disengagement position. Although in a transient state before reaching the final upstream or downstream position, the spring is subjected to a reverse compression or reverse expansion, respectively, due to the "over-centering" arrangement of the regulation means, applicant's claimed invention does not require that the elastic element continually expand or contract in the process of the going from the engaged to the disengaged position or vis versa.

Regarding claims 11 and 30, the examiner would also like to point out that the clutch spring recited in column 2, lines 23-25 is not the toggle spring (8) located within the booster. Rather, the clutch spring is the diaphragm spring or an equivalent spring within the clutch. For example, please refer to 13 in applicant's figure 1. The applicant appears to be confusing the clutch spring with the toggle spring (8) in their arguments.

Applicant's arguments with respect to claims 8 and 10 have been considered but are moot in view of the new ground(s) of rejection.

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Applicant's argument, see Remarks, filed 3/5/2010, with respect to claims 12-17 have been fully considered and are persuasive. The rejection of claims 12-17 has been withdrawn.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Von Oberstadt (US 1,951,224) discloses a master cylinder for brakes.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERRY CHAU whose telephone number is (571) 270-5926. The examiner can normally be reached on Monday-Friday 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TERRY CHAU/
Examiner, Art Unit 3655

/David D. Le/
Primary Examiner, Art Unit 3655
06/07/2010